

REMARKS

The present application includes pending claims 20-36, all of which have been rejected. By this Amendment, claims 20-36 have been amended, as set forth above, to further clarify the language used in these claims and to further prosecution of the present application. Claims 1-19 are cancelled and new claims 37-53 have been entered. The Applicant respectfully submits that the claims define patentable subject matter.

Claims 20-36 have been rejected under 35 U.S.C. § 112 and 35 U.S.C. § 101. Claims 20-24 and 27-32 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Martin ("Unitary ESPRIT: How to Obtain Increased Estimation Accuracy with a Reduced Computational Burden"). Claims 25-26 and 32-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Martin.

The Applicant respectfully traverses these rejections at least for the reasons previously set forth during prosecution and at least based on the following remarks.

I. Claim Rejections under 35 U.S.C. § 112

In page 2 of the Final Office Action, the Examiner has objected to the use of the term "adaptive" in the preamble of claim 20. Claim 20 has been amended, as set forth above, to overcome this rejection. The Applicant submits that the

rejection of claims 20-36 under 35 U.S.C. § 112 is now moot and should be withdrawn.

II. Claim Rejections under 35 U.S.C. § 101

In pages 2-3 of the Final Office Action, the Examiner has rejected claims 20-36 for allegedly being directed to non-statutory subject matter. Applicant respectfully traverses this rejection. Nevertheless, in an effort to expedite prosecution, claims 20-36 have been amended, as set forth above. Claims 20-36 are now directed to a system for processing signals. For example, claim 20 recites the use of complex number arithmetic adaptation parameters as filter parameters for adaptive filtering of a signal, which is statutory subject matter. The Applicant submits that the rejection of claims 20-36 under 35 U.S.C. § 101 is now moot and should be withdrawn.

III. Martin Does Not Anticipate Claims 20-24 and 27-31

The Applicant first turns to the rejection of claims 20-24 and 27-31 under 35 U.S.C. 102(b) as being anticipated by Martin.

With regard to the anticipation rejections under 102(b), MPEP 2131 states that “[a] claim is anticipated only if **each and every element** as set forth in the claim is found, either expressly or inherently described, in a single prior art

reference.” See Manual of Patent Examining Procedure (MPEP) at 2131 (internal citation omitted). Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the ... claim.” See id. (internal citation omitted).

A. Rejection of Independent Claim 20 under 35 U.S.C. § 102 (b)

With regard to the rejection of independent claim 20 under Martin, the Applicant submits that Martin does not disclose or suggest at least the limitation of “means for computing two sets of real number arithmetic adaptation parameters by applying two real number Least Square Solvers (LESS) to said two sets of real number arithmetic observations,” as recited by the Applicant in independent claim 20.

The Office Action states the following:

means for computing with two real number LESS two sets of real number arithmetic adaptation parameters (e.g. right column in page 1233 wherein a complex number/matrix is converted to two real numbers/matrices corresponding to even and odd order of the complex number/matrix);

See the Final Office Action at page 4. The Examiner relies for support to Martin, page 1233, right column. The Applicant points out that in page 1233 (right column), Martin provides a review of the definition and basic properties of centro-Hermitian matrices derived by A. Lee. The Examiner is, apparently, referring to the two unitary matrices (3) and (4). However, Martin does not disclose or suggest

applying two real number LESS to two sets of real number observations for purposes of computing the two sets of real number parameters. The Applicant points out that Martin discloses the use of the transformation $T(G)$, which is used to transform the complex matrix into a real matrix. Martin further defines the transformation $T(G)$ in the bottom of page 1233 and the left column of page 1234. As clearly seen from pages 1233-1234, Martin does not use real number LESS in the $T(G)$ transformation.

Therefore, the Applicant maintains that Martin does not disclose or suggest at least the limitation of “means for computing two sets of real number arithmetic adaptation parameters by applying two real number Least Square Solvers (LESS) to said two sets of real number arithmetic observations,” as recited by the Applicant in independent claim 20.

Accordingly, independent claim 20 is not anticipated by Martin and is allowable.

B. Rejection of Dependent Claims 21-24 and 27-31

Based on at least the foregoing, the Applicant believes the rejection of independent claim 20 under 35 U.S.C. § 102(b) as being anticipated by Martin has been overcome and requests that the rejection be withdrawn. Additionally, claims

21-24 and 27-31 depend from independent claim 20 and are, consequently, also respectfully submitted to be allowable.

Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 20-24 and 27-31.

IV. Rejection of Dependent Claims 25-26 and 32-36 under 35 U.S.C. § 103(a)

Based on at least the foregoing, the Applicant believes the rejection of independent claim 20 under 35 U.S.C. § 102(b) as being unpatentable over Martin has been overcome and request that the rejection be withdrawn. Additionally, claims 25-26 and 32-36 depend from independent claim 20 and are, consequently, also respectfully submitted to be allowable.

The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 25-26 and 32-36.

V. New Claims 37-53

The Applicant has entered new claims 37-53, which are similar in many respects to the pending claims 20-36. The Applicant points out that no new matter has been introduced by the new claims 37-53 and respectfully submits that they are allowable.

CONCLUSION

Based on at least the foregoing, the Applicant believes that all claims 20-53 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and request that the Examiner telephone the undersigned Attorney at (312) 775-8176.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

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